



PALLET TAG PROGRAM LABORATORY REPORT



PROSOCO, Inc.

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- Product Data literature for all products evaluated



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FOR: Joe Longo
cc: Joe Talecki
John Bourne
Stephen Dean

SUBJECT: Barrasso & Sons Inc.
Islip Terrace, NY

DATE: July 12, 2002

PROJECT: 0204-02 PTP

SAMPLES SUBMITTED: Three colors of split-face concrete block.

<u>Block</u>	<u>Color</u>	<u>Size</u>
(6) Split-face CMU's	"GC-8"	16" x 4" x 7.75"
(6) Split-face CMU's	"GC-2"	16" x 4" x 7.75"
(7) Split-face CMU's	"GC-9"	16" x 4" x 7.75"

Submitted by: Joe Talecki



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PURPOSE OF TESTING:

Three integrally colored split-face concrete blocks with large, small and fine aggregate were submitted for testing using PROSOCO's new construction cleaning and water repellent products.

A. Cleaning Concrete Masonry Units: Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] Burnished Custom Masonry Cleaner were evaluated for removal of laboratory applied mortar.

To simulate new construction soiling, all CMU's are placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall are positioned on top of each CMU and filled with a wet mixture of Ash Grove[®] Type S mortar. The wet, mortar-filled cylinder is allowed to remain in contact with the CMU for 10 minutes before removal.

Heavy deposits of mortar are removed with dry scraping after 24 hours. Prepared cleaning solutions are then evaluated for their effectiveness in removing residual Ash Grove[®] Type S mortar staining after 3 days, 7 days, and 14 days of curing.*

B. Color Uniformity Testing* - Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] Burnished Custom Masonry Cleaner were evaluated at various dilutions to determine the optimal concentration of cleaner that leaves the external surface looking most like the natural through-body color of the CMU. Color uniformity was evaluated by comparing aggregate exposure and surface pigment alternation/removal of each cleaned surface compared to the natural through-body color of the CMU.

Aggregate Exposure is the visual examination comparing aggregate exposure of the interior, through-body section of CMU to surfaces cleaned with selected product(s) at given dilutions.

Surface Pigment Alteration/Removal* is the visual examination comparing the pigmentation of the interior, through-body section of the CMU to surfaces cleaned with selected product(s) at given dilutions.

The following is the scale used for reporting results of both categories:

0 – Worst match to through-body	3 – Good match to through-body
1 – Poor match to through-body	4 – Best match to through-body
2 – Fair match to through-body	

*** NOTE: When cleaning integrally colored CMU.**

Integrally colored concrete masonry units (CMU's) frequently have high amounts of pigments concentrated on the surface of the cured concrete unit. Variation of surface pigment concentrations from one CMU to the next creates a blotchy appearance in the completed wall. Allowed to remain on the surface of the CMU, the weakly bound pigment will weather and streak, further detracting from the appearance of the completed CMU wall.

In addition to removing excess mortar and construction related soiling, the goal of any cleaning operation undertaken on integrally colored CMU should include removal of unnaturally high concentrations of surface pigment. By revealing the natural through-body color on the integrally colored unit, the overall color uniformity and weathering resistance of the completed CMU wall is improved.

C. Protective Water Repellents - Sure Klean[®] Custom Masonry Sealer and Sure Klean[®] Weather Seal Siloxane WB Concentrate were evaluated for their ability to provide water repellency to the submitted samples.



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PRODUCTS EVALUATED FOR CLEANING AND COLOR UNIFORMITY

Block Type	Product	Dilution
All submitted split-face CMU's	Sure Klean [®] Custom Masonry Cleaner	1:2, 1:4, 1:6
	Sure Klean [®] Burnished Custom Masonry Cleaner	1:2, 1:3

WATER REPELLENT PRODUCTS EVALUATED

Block Type	Product	Dilution
All submitted split-face CMU's	Sure Klean [®] Custom Masonry Sealer	Concentrate
	Sure Klean [®] Weather Seal Siloxane WB Concentrate	1:9, 1:14



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SECTION A – CLEANING INTEGRALLY COLORED CMU'S

DESCRIPTION OF PRODUCTS EVALUATED

These cleaning trials were conducted to determine the optimal cleaning/cure time combination.

Sure Klean® Custom Masonry Cleaner – A general purpose, concentrated acidic cleaner for most custom masonry and colored concrete. Removes concrete splashes, excess mortar, mud, heavy efflorescence and surface soiling, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 2-6 parts water. Apply by brush or low-pressure spray.

Sure Klean® Burnished Custom Masonry Cleaner – A general purpose, non-etching acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Liquid concentrate for dilution with 2-3 parts water. Apply by brush or low-pressure spray.

TEST METHOD – Cleaning

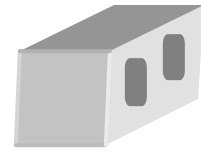
Dilution ratios refer to mixtures of parts concentrated cleaner : parts fresh water. Chemical cleaners were evaluated using the following procedure:

1. Prewet the surface with water.
2. Apply each cleaner at the appropriate dilutions.
3. Allow appropriate dwell time for each cleaner:
 - Custom Masonry Cleaner 3 minutes
 - Burnished Custom Masonry Cleaner 5 minutes
4. Reapply the products and moderately agitate with a brush.
5. Pressure rinse thoroughly.*
6. Allow the surface to dry for at least 18 hours and visually examine.

* Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.



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TEST RESULTS - Cleaning

% removal

“GC-8”				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	100%
Custom Masonry Cleaner	1:4	100%	100%	100%
Custom Masonry Cleaner	1:6	100%	100%	100%
Burnished Custom Masonry Cleaner	1:2	100%	100%	100%
Burnished Custom Masonry Cleaner	1:3	100%	100%	100%
“GC-9”				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	100%
Custom Masonry Cleaner	1:4	100%	100%	100%
Custom Masonry Cleaner	1:6	100%	100%	100%
Burnished Custom Masonry Cleaner	1:2	100%	100%	100%
Burnished Custom Masonry Cleaner	1:3	100%	100%	100%
“GC-2”				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	100%
Custom Masonry Cleaner	1:4	100%	100%	100%
Custom Masonry Cleaner	1:6	100%	100%	100%
Burnished Custom Masonry Cleaner	1:2	95%	100%	100%
Burnished Custom Masonry Cleaner	1:3	90%	100%	100%



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CONCLUSIONS - Cleaning

Based on the test data, all of the submitted block samples were efficiently cleaned with each dilution of the selected PROSOCO Inc.'s cleaning products. Use higher concentrations and surface agitation to maximize aggregate exposure. Use low concentration and surface agitation to minimize aggregate exposure.

All dilutions of Sure Klean® Custom Masonry Cleaner and Sure Klean® Burnished Custom Masonry Cleaner tested affected the substrate in a similar manner, removing slight to heavy concentrations of pigmented matrix from the rough and smooth block faces, exposing small and large aggregate, and enhancing the natural appearance of the integrally colored concrete masonry unit.

RECOMMENDED PRODUCTS AND DILUTIONS – CLEANING

Recommendations for cleaning for each type of CMU submitted by Barrasso & Sons, Inc., Islip Terrace, NY are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar.

Block	Color	New Construction Cleaning (Type S mortar, 14 day)
Split-face CMU	GC-8	Sure Klean® Custom Masonry Cleaner (1:6)
		Sure Klean® Burnished Custom Masonry Cleaner (1:3)
Split-face CMU	GC-9	Sure Klean® Burnished Custom Masonry Cleaner (1:2)
Split-face CMU	GC-2	Sure Klean® Burnished Custom Masonry Cleaner (1:3)

The most appropriate cleaner and dilution should be determined on the specific job-site, and will be dependent primarily on the nature and severity of soiling present at that location.

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.



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SECTION B – COLOR UNIFORMITY:

DESCRIPTION OF PRODUCTS EVALUATED – Color Uniformity:

Sure Klean® Custom Masonry Cleaner – A general purpose, concentrated acidic cleaner for most custom masonry and colored concrete. Removes concrete splashes, excess mortar, mud, heavy efflorescence and surface soiling, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 2-6 parts water. Apply by brush or low-pressure spray.

Sure Klean® Burnished Custom Masonry Cleaner – A general purpose, non-etching acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Liquid concentrate for dilution with 2-3 parts water. Apply by brush or low-pressure spray.

TEST METHOD – Color Uniformity Testing:

Dilution ratios refer to mixtures of parts concentrated cleaner : parts fresh water. Chemical cleaners were evaluated using the following procedure:

1. Prewet the surface with water.
2. Apply each cleaner at the appropriate dilutions.
3. Allow appropriate dwell time, as specified.
 - Custom Masonry Cleaner 3 minutes
 - Burnished Custom Masonry Cleaner 5 minutes
4. Reapply the products and moderately agitate with a brush.
5. Pressure rinse thoroughly.*
6. Allow the sample to dry for at least 18 hours and visually examine.
7. Break the sample in half and compare the through-body surfaces to the cleaned surfaces for the best match.

* Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.



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TEST RESULTS – Color Uniformity

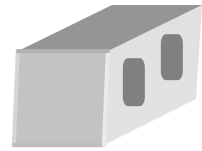
Substrate: Split-face CMU		Pigment Color: "GC-8"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	2	2
Custom Masonry Cleaner	1:4	2	2
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	4	4
Substrate: Split-face CMU		Pigment Color: "GC-9"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	2	2
Custom Masonry Cleaner	1:4	3	2
Custom Masonry Cleaner	1:6	3	2
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	3	2
Substrate: Split-face CMU		Pigment Color: "GC-2"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	2	2
Custom Masonry Cleaner	1:4	2	2
Custom Masonry Cleaner	1:6	3	2
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	4	4

Scale used for reporting results of both categories

- | | |
|--|---------------------------------------|
| 0 – Worst match to through-body | 3 – Good match to through-body |
| 1 – Poor match to through-body | 4 – Best match to through-body |
| 2 – Fair match to through-body | |



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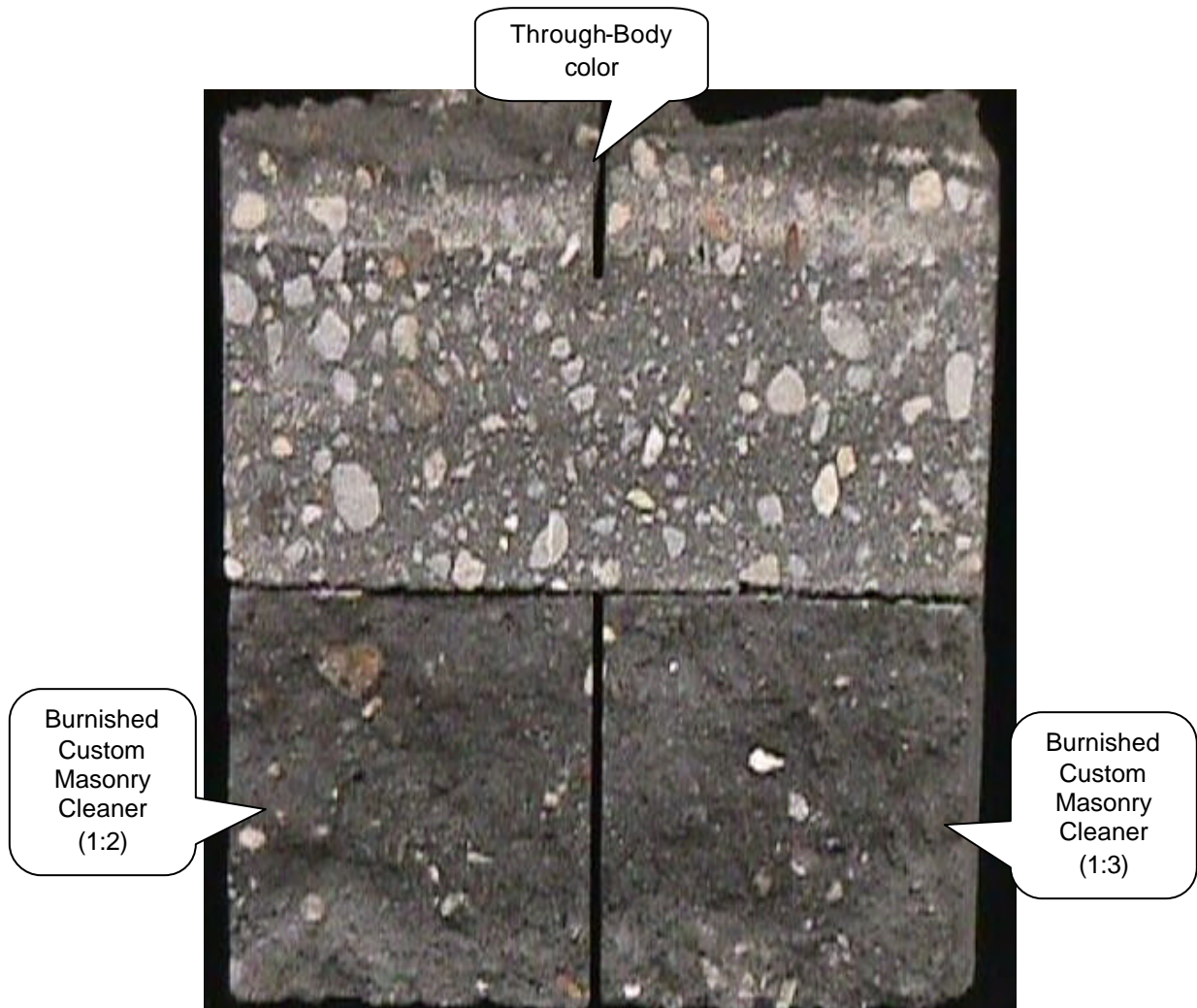


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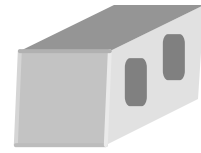
PHOTOGRAPHS – Color Uniformity

“GC-2” CMU after cleaning





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CONCLUSIONS: COLOR UNIFORMITY:

All dilutions of Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] Burnished Custom Masonry Cleaner tested affected the substrate in a similar manner. Higher concentrations of cleaner removed moderate to heavy concentrations of pigmented matrix, exposing small and large aggregate. Lower concentrations of cleaner removed slight to moderate concentrations of pigmented matrix, exposing small and large aggregate. All dilutions enhanced the natural appearance of the integrally colored CMU.

RECOMMENDATIONS - COLOR UNIFORMITY

Recommendations for color uniformity for each type of CMU submitted by Barrasso & Sons Inc., Islip Terrace, NY are provided in the chart below. Recommendations are based on the optimum dilution that provides the best color uniformity.

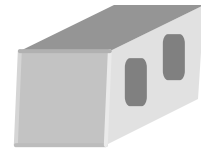
Block	Color	Color Uniformity
Split-face CMU	GC-8	Sure Klean [®] Custom Masonry Cleaner (1:6)
		Sure Klean [®] Burnished Custom Masonry Cleaner (1:3)
Split-face CMU	GC-9	Sure Klean [®] Burnished Custom Masonry Cleaner (1:2)
Split-face CMU	GC-2	Sure Klean [®] Burnished Custom Masonry Cleaner (1:3)

The most appropriate cleaner and dilution should be determined on the specific job-site, and will be dependent primarily on the nature and severity of soiling present at that location.

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.



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SECTION C - PROTECTIVE WATER REPELLENTS:

The testing described below evaluates the suitability of water repellent treatments.

The surface treatments evaluated were selected for their suitability for application based on the following selection criteria:

1. Weatherproofing properties
2. Color change
3. Ease of application

DESCRIPTIONS OF PRODUCTS EVALUATED - Protective Water Repellents:

Sure Klean[®] Custom Masonry Sealer – A clear, solvent-based silicone elastomer formulated to weather proof custom masonry units, cast stone, architectural concrete block, precast concrete, wood and porous masonry. Custom Masonry Sealer penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering.

Sure Klean[®] Weather Seal Siloxane WB Concentrate – A self-emulsifying water repellent concentrate designed for dilution with fresh water at the jobsite. This solvent-free blend of silanes and oligomeric alkoxy siloxanes mixes easily with water to produce a penetrating water repellent ideal for application to dense or porous masonry surfaces.

SAMPLE PREPARATION - Protective Water Repellents:

The submitted blocks were scored, allowed to dry, and to reabsorb atmospheric humidity for 24 hours prior to treatment. The treatment method consisted of a wet-on-wet brush application. All treatments were allowed to cure at least 3 days prior to testing.

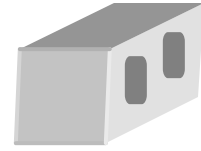
TEST METHODS - Protective Water Repellents:

Water Absorption Tube Test: RILEM II.4, 60 mph & 5.0 Milliliters, 20 Minutes

The water absorption tube test simulating wind driven rain conditions was performed. This test simulates 60 mile per hour wind driven rain conditions for a period of 20 minutes. See Technical Services TECH Note RILEM Tube Test Procedures.



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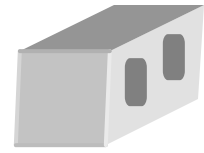
TEST RESULTS - Protective Water Repellents

Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes

	RESULTS
"GC-8"	
Untreated Control	< 40 mph
Custom Masonry Sealer	58 mph
Siloxane WB Concentrate (1:9)	58 mph
Siloxane WB Concentrate (1:14)	57 mph
"GC-9"	
Untreated Control	< 40 mph
Custom Masonry Sealer	59 mph
Siloxane WB Concentrate (1:9)	59 mph
Siloxane WB Concentrate (1:14)	58 mph
"GC-2"	
Untreated Control	< 40 mph
Custom Masonry Sealer	< 40 mph
Siloxane WB Concentrate (1:9)	59 mph
Siloxane WB Concentrate (1:14)	59 mph



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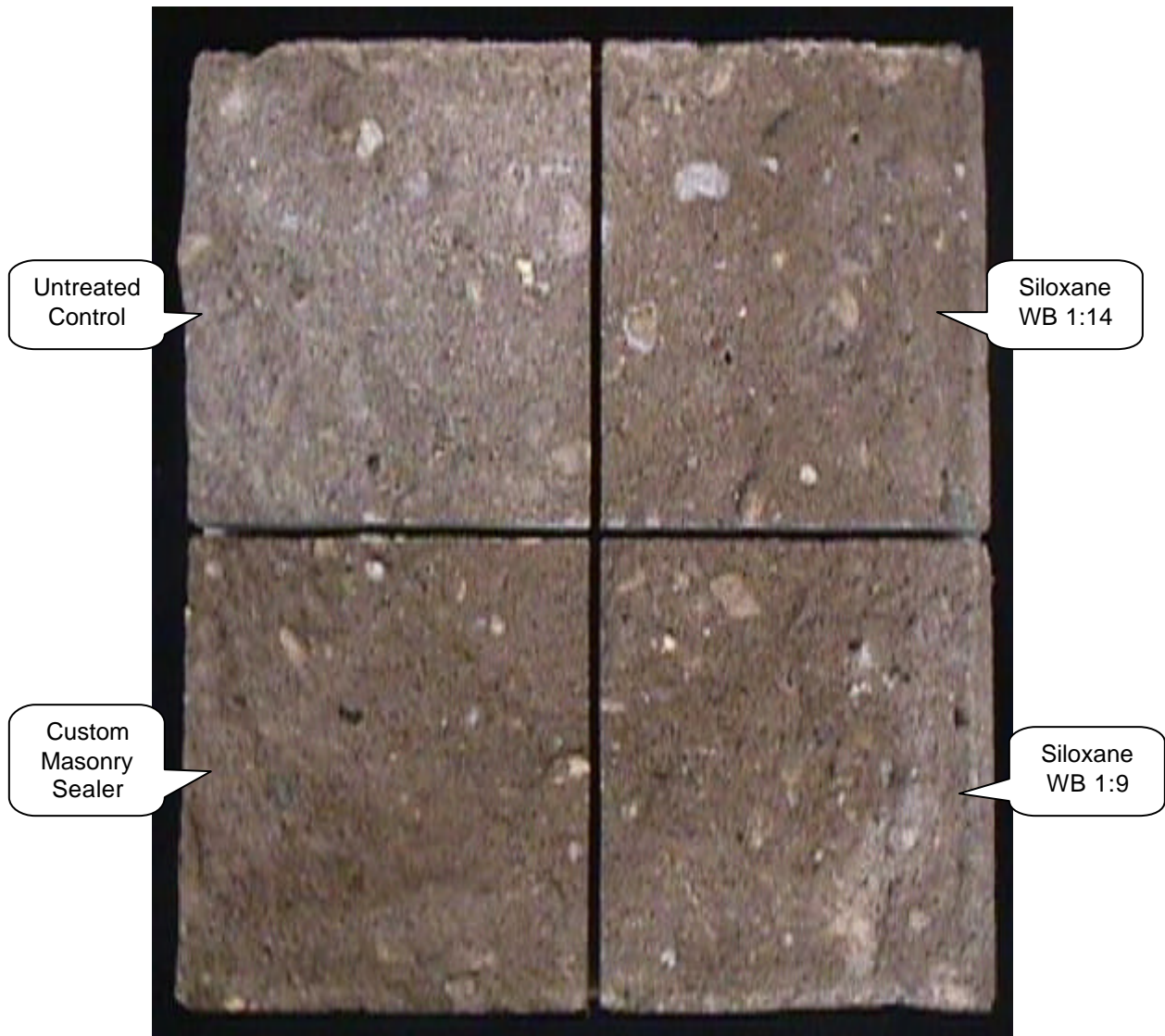


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PHOTOGRAPHS – Protective Water Repellents

“GC-9” split-face CMU after water repellency treatment





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CONCLUSIONS - Protective Water Repellents

Based upon laboratory evaluations, Sure Klean[®] Custom Masonry Sealer and Sure Klean[®] Weather Seal Siloxane WB Concentrate diluted with nine or fourteen parts fresh water provided above average water repellency to most of the submitted samples. Sure Klean[®] Custom Masonry Sealer was not effective at providing water repellency protection to split-face CMU type "Gray." Sure Klean[®] Custom Masonry Sealer moderately enhanced the natural color of the CMU's and Sure Klean[®] Weather Seal Siloxane WB Concentrate slightly enhanced the natural color of the CMU's.

RECOMMENDATIONS - PROTECTIVE WATER REPELLENTS

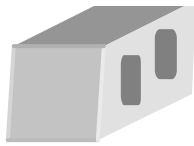
Recommendations for water repellency treatment for each type of CMU submitted by Barrasso & Sons Inc., Islip Terrace, NY are provided in the chart below. Recommendations are based on the treatment that proved most effective and can provide water repellency on all types submitted.

Block Type	Water Repellents
"GC-8" split-face CMU	Sure Klean [®] Custom Masonry Sealer
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9), (1:14)
"GC-2" split-face CMU	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9), (1:14)
"GC-9" split-face CMU	Sure Klean [®] Custom Masonry Sealer
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9), (1:14)

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate water repellent product and procedures for a particular project. See product literature for additional application and product information.

Lisa Toburen
Assistant Laboratory Technician

LT/CMN



Laboratory Report

Pallet Tag Program Evaluation

**Barrasso & Sons Inc.
Islip Terrace, NY**

Project No. 0204-02 PTP

Prepared For:

Joe Longo

**Barrasso & Sons Inc.
160 Floral Park Street
Islip Terrace, NY 11752**

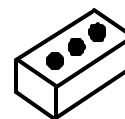
Prepared By:



***PROSOCO, Inc.
July 2002***



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SECTION C - PROTECTIVE WATER REPELLENTS

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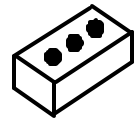
ATTACHMENTS

Technical Services TECH Note RILEM Test Procedures

Product Data literature for all products evaluated



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FOR: Joe Longo
cc: Joe Talecki
John Bourne
Stephen Dean

SUBJECT: Barrasso & Sons Inc.
Islip Terrace, NY

DATE: July 12, 2002

PROJECT: 0204-02 PTP

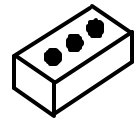
SAMPLES SUBMITTED: Two types of flagstone.

Sample	Color/Finish	Size
(6) Flagstones	Peach	17.75" x 1" x 11.5"
(6) Flagstones	Teakwood	17.75" x 1" x 11.5"

Submitted by: Joe Talecki



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PURPOSE OF TESTING:

Samples of flagstone units were submitted to PROSOCO, Inc.'s Testing Laboratory with a request to determine if application of the products evaluated will produce any surface alteration during new construction cleaning operations. Additionally, the effectiveness of water repellents, suitable for natural stone masonry, will be evaluated.

A. Cleaning – Sure Klean[®] Vana Trol[®] and Enviro Klean[®] Safety Klean were evaluated for removal of laboratory applied mortar. Enviro Klean[®] BioWash, Enviro Klean[®] BioKlean and Sure Klean[®] Limestone and Masonry Afterwash were evaluated for their ability to remove biological soiling.

To simulate new construction soiling, all natural stones are placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall are positioned on top of each natural stone and filled with a wet mixture of Ash Grove[®] Type S cementitious mortar. The wet, mortar-filled cylinder is allowed to remain in contact with the flagstone for 10 minutes before removal.

Soiled bricks are allowed to dry before test cleaning.

Heavy deposits of mortar are removed with dry scraping after 24 hours. Prepared cleaning solutions are then evaluated for their effectiveness in removing residual Ash Grove[®] Type S mortar staining after 3, 7 and, 14 days of curing.

B. Surface Alteration Testing - Sure Klean[®] Vana Trol[®] and Enviro Klean[®] Safety Klean were tested at various dilutions to determine if a cleaning program implemented to remove excess mortar and related new construction soiling would otherwise alter the appearance of cleaned surfaces. Surface Alterations were evaluated visually based upon perceived discoloration or erosion/etching of the masonry unit.

Surface Finish Removal is the visual examination of the flagstone comparing the surface finish of the untreated control surface to the surface finish cleaned with selected product(s) at given dilutions.

Substrate Deterioration is the visual examination of the flagstone comparing the surface of the untreated control to surfaces cleaned with selected product(s) at given dilutions looking for any potential erosion/digestion of the brick.

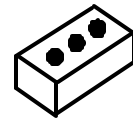
Color Change is the visual examination comparing the color of the untreated control surface to color of surfaces cleaned with selected products at given dilutions.

Staining is the visual examination for changes that are the result of a chemical reaction that leaves a staining precipitate.

C. Water Repellent Evaluation - Sure Klean[®] Weather Seal Siloxane WB Concentrate, Sure Klean[®] Custom Masonry Sealer and, Sure Klean[®] Weather Seal Natural Stone Treatment were evaluated on the submitted samples for their ability to provide water repellency.



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CLEANING PRODUCTS EVALUATED (New Construction)

Sample	Product	Dilution
All submitted flagstones	Sure Klean [®] Vana Trol [®]	1:6, 1:8, 1:10
	Enviro Klean [®] Safety Klean	1:2, 1:3

CLEANING PRODUCTS EVALUATED (Removal of Biological Soiling)

Sample	Product	Dilution
All submitted flagstones	Enviro Klean [®] BioWash*	1:30
	Enviro Klean [®] BioKlean*	1:1:3
	Sure Klean [®] Limestone & Masonry Afterwash*	1:1

SURFACE ALTERATIONS PRODUCTS EVALUATED

Sample	Product	Dilution
All submitted flagstones	Sure Klean [®] Vana Trol [®]	1:6, 1:8, 1:10
	Enviro Klean [®] Safety Klean	1:2, 1:3

WATER REPELLENT PRODUCTS EVALUATED

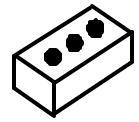
Sample	Product	Dilution
All submitted flagstones	Sure Klean [®] Custom Masonry Sealer	Concentrate
	Sure Klean [®] Weather Seal Siloxane WB Concentrate	1:9, 1:14
	Sure Klean [®] Weather Seal Natural Stone Treatment	Concentrate

Dilution ratios refer to mixtures of concentrated product : fresh water.

*Note: BioWash, BioKlean and, Limestone & Masonry Afterwash were tested for removal of biological soiling on the submitted flagstone samples only.



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SECTION A –CLEANING

DESCRIPTION OF PRODUCTS EVALUATED – New Construction Cleaning

These cleaning trials were conducted to determine the optimal cleaning/cure time combination to most efficiently remove Ash Grove[®] Type S mortar from the submitted flagstone units.

Ash Grove[®] Type S cementitious mortar was prepared in compliance with the manufacturers instructions, applied to the flagstone surface and allowed to cure for 3, 7 and 14 days prior to removal with a high pressure water rinse using pressure rinsing equipment and chemical assistance. The removal of gray Ash Grove[®] Type S cementitious masonry cement mortar after 3, 7, and 14 days of curing was visually evaluated.

Enviro Klean[®] Safety Klean – An effective, safe alternative to acidic compounds for cleaning brick, tile, and concrete surfaces. Safety Klean rids new masonry construction of excess mortar, dirt, and other common job site soiling. Liquid concentrate for dilution with 2-3 parts water. Apply by brush or low-pressure spray.

Sure Klean[®] Vana Troi[®] - A concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. Use on: gray, brown, white, and most light-colored brick; natural stone; cast stone. Dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 4-25 parts water. Apply by brush or low-pressure spray.

DESCRIPTION OF PRODUCTS EVALUATED – Removal of Biological Soiling

These cleaning trials were conducted to determine which cleaners would most efficiently remove the biological soiling from the submitted flagstone units.

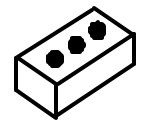
Enviro Klean[®] BioWash – A highly efficient alternative to aggressive cleaners traditionally used on interior and exterior masonry, stone, and tile surfaces. BioWash helps remove a broad spectrum of biological deposits from vertical or horizontal masonry, stone and tile surfaces. Liquid concentrate for dilution with 10-30 parts water. Apply by brush or low-pressure spray.

Enviro Klean[®] BioKlean - Safely removes biological and atmospheric staining from vertical or horizontal masonry surfaces. Cleans difficult mold and mildew staining that blackens limestone, concrete, and other masonry surfaces in humid environments. Liquid cleaner and liquid activator. Apply by brush or low-pressure spray.

Sure Klean[®] Limestone & Masonry Afterwash – A mild organic acid cleaning compound that neutralizes masonry precleaned with Enviro Klean[®] BioKlean. As part of the BioKlean system, Limestone & Masonry Afterwash helps remove combinations of atmospheric and biological staining that blacken limestone, marble, concrete, and other masonry surfaces in humid environments.



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TEST METHOD – New Construction Cleaning (Removal of Mortar)

Dilution ratios refer to mixtures of concentrated cleaner : fresh water. Chemical cleaners were evaluated using the following procedure:

1. Prewet the surface with water.
2. Apply the cleaner.
3. Allow the appropriate dwell time, as specified.
 - Safety Klean 5 minutes
 - Vana Trol[®] 5 minutes
4. Pressure rinse thoroughly.*

* Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.

TEST METHOD – Cleaning (Removal of Biological Soiling – BioWash)

Dilution ratios refer to mixtures of concentrated cleaner : fresh water. Chemical cleaners were evaluated using the following procedure:

1. Prewet the surface with water.
2. Apply the cleaner.
3. Allow the appropriate dwell time, as specified.
 - BioWash 3 minutes
4. Pressure rinse thoroughly.*

* Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.

TEST METHOD – Cleaning (Removal of Biological Soiling - BioKlean)

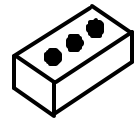
Dilution ratios refer to mixtures of concentrated cleaner : fresh water. Chemical cleaners were evaluated using the following procedure:

1. Apply the cleaner to a dry surface.
2. Allow appropriate dwell time, as specified. If solution begins to dry, reapply.
 - BioKlean..... 15 minutes
3. Gently scrub heavily soiled areas.
4. Pressure rinse thoroughly.*
5. Immediately apply Limestone & Masonry Afterwash to wet surface.
6. Allow the appropriate dwell time, as specified.
 - Limestone & Masonry Afterwash..... 3 minutes
7. Pressure rinse thoroughly.*

* Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.



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Test Results - New Construction Cleaning (Mortar Soiling)

% Removal

Peach

	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
EK Safety Klean (1:2)	100%	100%	100%
EK Safety Klean (1:3)	100%	100%	100%
SK Vana Trol® (1:6)	100%	100%	100%
SK Vana Trol® (1:8)	100%	100%	100%
SK Vana Trol® (1:10)	100%	100%	100%

Teakwood

	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
EK Safety Klean (1:2)	100%	100%	100%
EK Safety Klean (1:3)	100%	100%	100%
SK Vana Trol® (1:6)	100%	100%	100%
SK Vana Trol® (1:8)	100%	100%	100%
SK Vana Trol® (1:10)	100%	90%	100%

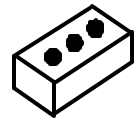
Test Results - Cleaning (Biological Soiling)

% Removal

Type	Color	Cleaner	% Removal
Flagstone	Peach	EK BioWash	100%
	Teakwood	EK BioKlean w/ SK Limestone & Masonry Afterwash	100%



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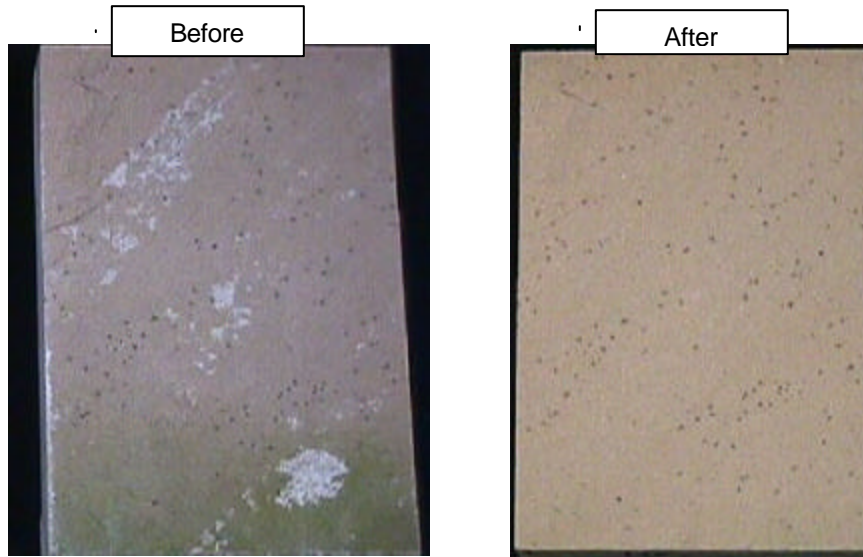


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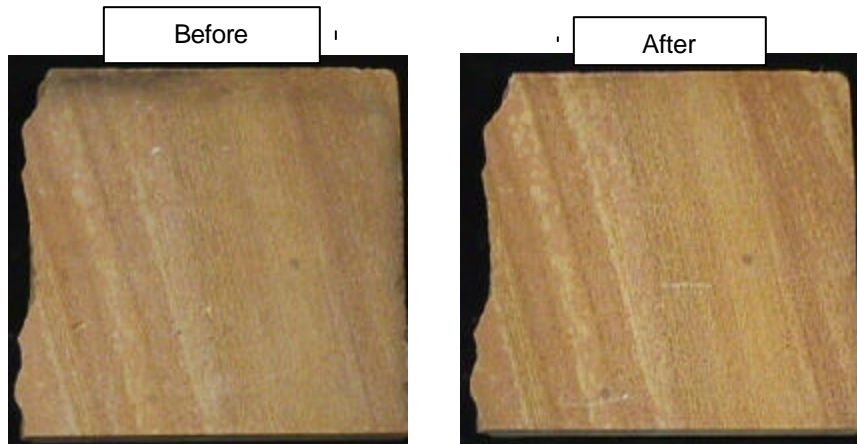
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PHOTOGRAPHS – Cleaning Biological Soiling

“Peach” cleaned with BioWash

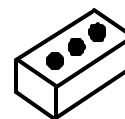


“Teakwood” cleaned with BioKlean and Limestone & Masonry Afterwash





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CONCLUSIONS - Cleaning:

Based on the test results, all mortar cleaners in all dilutions performed extremely well in removing excess mortar smears from the submitted flagstone samples. The cleaners performed well in removing the mortar soils even after allowing the mortar to remain on the surface of the flagstone for 14 days under ideal curing conditions.

Based upon test results, Enviro Klean[®] BioWash effectively removed all biological soiling from flagstone type "Peach." Enviro Klean[®] BioKlean coupled with Sure Klean[®] Limestone & Masonry Afterwash effectively removed all biological soiling from flagstone type "Teakwood".

It is also recommended that the selected mortar cleaners always be used in the lowest possible concentration, typically a 1:3 dilution for Enviro Klean[®] Safety Klean and a 1:6 dilution for Sure Klean[®] Vana Trol[®]. To facilitate easier removal of excess mortar, construction dirt and, biological soiling while minimizing any potential adverse affect, clean within 7 days of construction.

RECOMMENDED PRODUCTS AND DILUTIONS – CLEANING

Recommendations for cleaning for each type of CMU submitted by Barrasso & Sons Inc., Islip Terrace, NY, are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar or biological soiling.

Type	Color	New Construction Cleaning (Type S mortar, 14 day)
Flagstone	Peach	Enviro Klean [®] Safety Klean (1:3)
		Sure Klean [®] Vana Trol [®] (1:6)
	Teakwood	Enviro Klean [®] Safety Klean (1:3)
		Sure Klean [®] Vana Trol [®] (1:6)

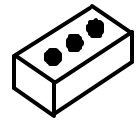
Type	Color	Cleaning (Biological Soiling)
Flagstone	Peach	Enviro Klean [®] BioWash
	Teakwood	Enviro Klean [®] BioKlean w/ Limestone & Masonry Afterwash

The most appropriate cleaner and dilution should be determined on the specific job-site, and will be dependent primarily on the nature and severity of soiling present at that location.

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.



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SECTION B – Surface Alterations:

DESCRIPTION OF PRODUCTS EVALUATED – Surface Alterations:

Sure Klean® Vana Trol® - A concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. Designed for use on gray, brown, white and most light-colored brick, natural stone and cast stone. Dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 4-10 parts water. Apply by brush or low-pressure spray.

Enviro Klean® Safety Klean – An effective, safe alternative to acidic compounds for cleaning brick, tile, and concrete surfaces. Safety Klean rids new masonry construction of excess mortar, dirt, and other common job site soiling. Liquid concentrate for dilution with 2-3 parts water. Apply by brush or low-pressure spray.

TEST METHOD – Surface Alteration Testing:

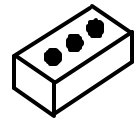
Dilution ratios refer to mixtures of concentrated cleaner : fresh water. Chemical cleaners were evaluated using the following procedure:

1. Wet the surface with water.
2. Apply the cleaner.
3. Allow the appropriate dwell time, as specified:
 - Safety Klean 5 minutes
 - Vana Trol® 5 minutes
4. Pressure rinse thoroughly.*

* Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.



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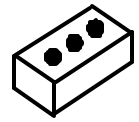
Surface Alteration Results:

Substrate: Flagstone		Pigment Color: "Peach"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0
Vana Trol®	1:10	0	0	0	0
Safety Klean	1:2	0	0	0	0
Safety Klean	1:3	0	0	0	0
Substrate: Flagstone		Pigment Color: "Teakwood"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	1	0	1	0
Vana Trol®	1:8	1	0	1	0
Vana Trol®	1:10	1	0	1	0
Safety Klean	1:2	1	0	1	0
Safety Klean	1:3	1	0	1	0

Scale used for reporting results of all categories	
0 – no change	3 – heavy
1 – slight	4 – excessive
2 – moderate	



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CONCLUSIONS – Surface Alterations

Test results show that flagstone type “Peach” did not display adverse effects when cleaned with either Sure Klean[®] Vana Trol[®] or Enviro Klean[®] Safety Klean. However, flagstone type “Teakwood” did display minor adverse effects when cleaned with both Sure Klean[®] Vana Trol[®] and Enviro Klean[®] Safety Klean. Using a low-pressure rinse can minimize surface finish removal.

RECOMMENDED PRODUCTS AND DILUTIONS – SURFACE ALTERATIONS

Recommendations for surface alterations for each type of flagstone submitted by Barrasso & Sons Inc., Islip Terrace, NY, are provided in the chart below. Recommendations are based on the optimum dilution for removal of mortar while limiting adverse effects.

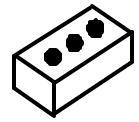
Type	Color	Surface Alterations
Flagstone	Peach	Enviro Klean [®] Safety Klean (1:3)
		Sure Klean [®] Vana Trol [®] (1:6)
	Teakwood	Enviro Klean [®] Safety Klean (1:3)
		Sure Klean [®] Vana Trol [®] (1:6)

The most appropriate cleaner and dilution should be determined on the specific job-site, and will be dependent primarily on the nature and severity of soiling present at that location.

Apply all products in accordance with the manufacturer’s recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.



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SECTION C - PROTECTIVE WATER REPELLENTS:

The testing described below evaluates the suitability of water repellent treatments.

The surface treatments evaluated were selected for their suitability for application based on the following selection criteria:

1. Weatherproofing properties
2. Color change
3. Ease of application

DESCRIPTIONS OF PRODUCTS EVALUATED - Protective Water Repellents:

Sure Klean® Weather Seal Siloxane WB Concentrate - A self-emulsifying water repellent concentrate designed for dilution with fresh water at the job site. This solvent-free blend of silanes and oligomeric alkoxy siloxanes mixes easily with water to produce a penetrating water repellent which is ideal for application to either dense or porous masonry surfaces.

Sure Klean® Custom Masonry Sealer – A clear, solvent-based silicone elastomer formulated to weather proof custom masonry unit, cast stone, architectural concrete block, precast concrete, wood and porous masonry. Custom Masonry Sealer penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering.

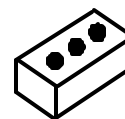
Sure Klean® Weather Seal Natural Stone Treatment – A modified Siloxane water repellent developed for limestone, marble and most other traditional masonry surfaces. Natural Stone Treatment penetrates deeply to provide long-lasting protection without altering the natural appearance of the substrate.

SAMPLE PREPARATION - Protective Water Repellents:

The submitted flagstones were cut, oven dried and allowed to reabsorb atmospheric humidity for 24 hours prior to treatment. The treatment method consisted of a wet-on-wet application. All treatments were allowed to cure for 3 days prior to testing.



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TEST METHODS - Protective Water Repellents:

Water Absorption Tube Test: RILEM II.4, 5.0 milliliters, 20 minutes

The water absorption tube test simulating wind driven and wind blown rain conditions was also performed. Tests were run with 5.0-milliliter head pressures. Filled to 5 milliliters, a water absorption tube produces a 98 mph dynamic wind pressure. See RILEM II.4 Tech Note for additional information.

The ranking system used to evaluate the effectiveness of the products applied to each submitted sample is as follows:

AA = "Above Average" correlates to less than or equal to 20% of the maximum untreated absorption.

A = "Average" correlates to less than or equal to 50% of the maximum untreated absorption

BA = "Below Average" correlates to greater than 50% of the maximum untreated absorption.

EXAMPLE: If RILEM tubes applied to an untreated sample result in loss of 5 ml of water or more, then:

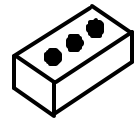
A rating of **AA** *Above Average* water repellent performance would require loss of no more than $5 \text{ ml} \times 20\% = 1 \text{ ml}$.

A rating of **A** *Average* water repellent performance would require loss of no more than $5 \text{ ml} \times 50\% = 2.5 \text{ ml}$.

A rating of **BA** *Below Average* water repellent performance would be reported for treatments which result in a loss of more than $50\% \times 5 \text{ ml} = 2.5 \text{ ml}+$



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TEST RESULTS - Protective Water Repellents:

Water Absorption Tube Test: RILEM II.4, 5.0 milliliters, 20 Minutes

AA = Above Average

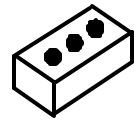
AA = Average

BA = Below Average

"Peach"	Results	Ranking
Untreated Control	0.25	---
Siloxane WB (1:9)	0.00	<u>AA</u>
Siloxane WB (1:14)	0.10	<u>AA</u>
Custom Masonry Sealer	0.00	<u>AA</u>
Natural Stone Treatment	0.00	<u>AA</u>
"Teakwood"	Results	Ranking
Untreated Control	< 5.0	---
Siloxane WB (1:9)	0.00	<u>AA</u>
Siloxane WB (1:14)	0.10	<u>AA</u>
Custom Masonry Sealer	0.00	<u>AA</u>
Natural Stone Treatment	0.00	<u>AA</u>



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CONCLUSIONS - Protective Water Repellents:

Based upon laboratory evaluations, Sure Klean[®] Weather Seal Natural Stone Treatment, Sure Klean[®] Custom Masonry Sealer and Sure Klean[®] Weather Seal Siloxane WB Concentrate diluted with nine or fourteen parts fresh water provided above average water repellency protection to the submitted flagstones.

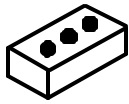
RECOMMENDATIONS - PROTECTIVE WATER REPELLENTS:

Recommendations for water repellency treatment for each type of flagstone submitted by Barrasso & Sons, Inc., Islip Terrace, NY are provided in the chart below. Recommendations are based on the treatment that proved most effective and can provide water repellency on all types submitted.

Type	Water Repellents
"Peach" flagstone	Sure Klean [®] Custom Masonry Sealer
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9), (1:14)
	Sure Klean [®] Weather Seal Natural Stone Treatment
"Teakwood" flagstone	Sure Klean [®] Custom Masonry Sealer
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9), (1:14)
	Sure Klean [®] Weather Seal Natural Stone Treatment

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate water repellent product and procedures for a particular project. See product literature for additional application and product information.

Lisa Toburen
Assistant Laboratory Technician
LT/CMN



Laboratory Report

Pallet Tag Program Evaluation

**Barrasso & Sons Inc.
Islip Terrace, NY**

Project No. 0204-02 PTP

Prepared For:

Joe Longo

**Barrasso & Sons, Inc.
160 Floral Park Street
Islip Terrace, NY 11752**

Prepared By:



***PROSOCO, Inc.
July 2002***